
INSTITUTIONAL TRADING STRATEGIES AND CONTAGION AROUND CRISIS PERIODS

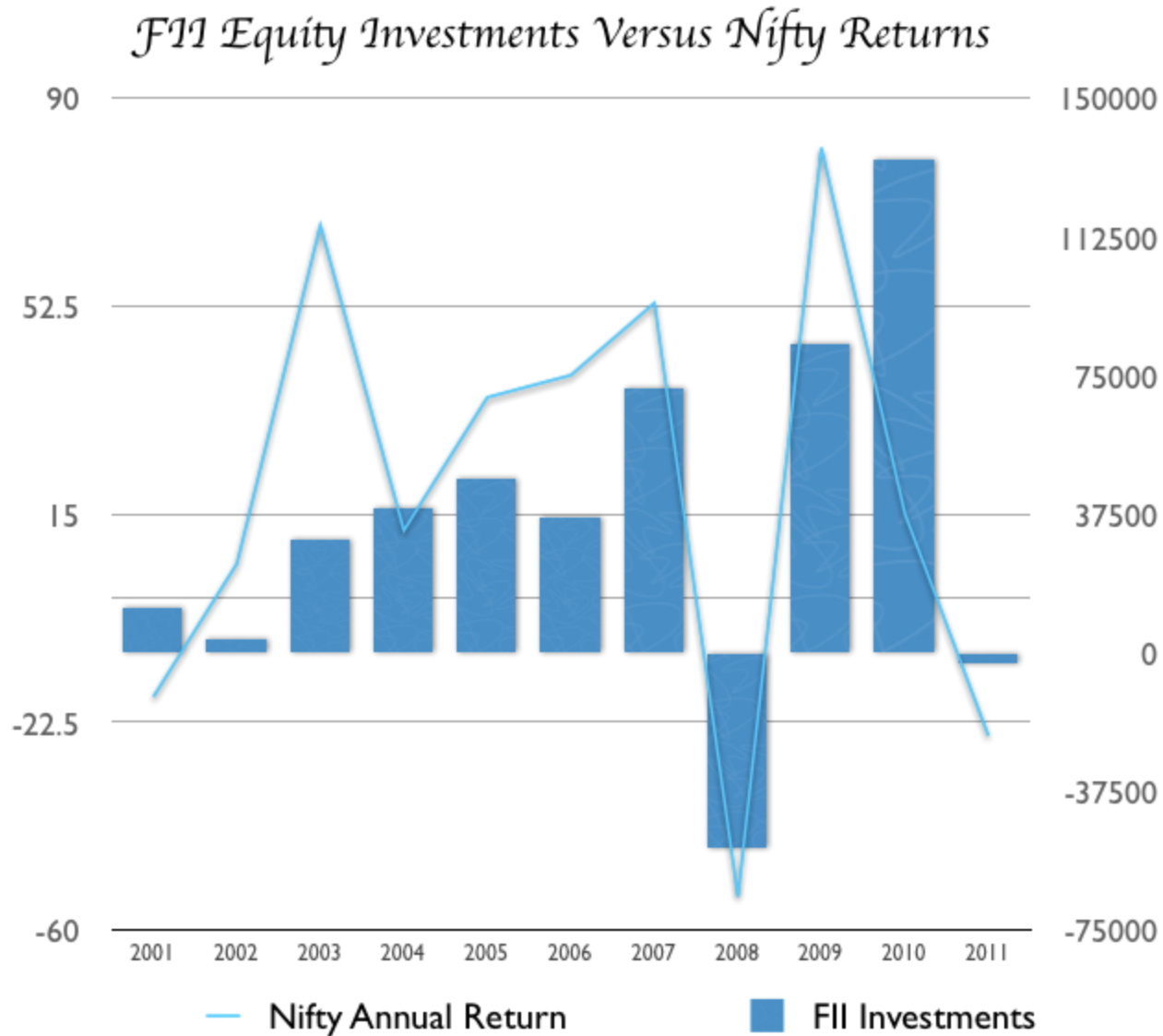
V. Ravi Anshuman

Rajesh Chakrabarti

Kiran Kumar

How do FII Investments affect stock market?

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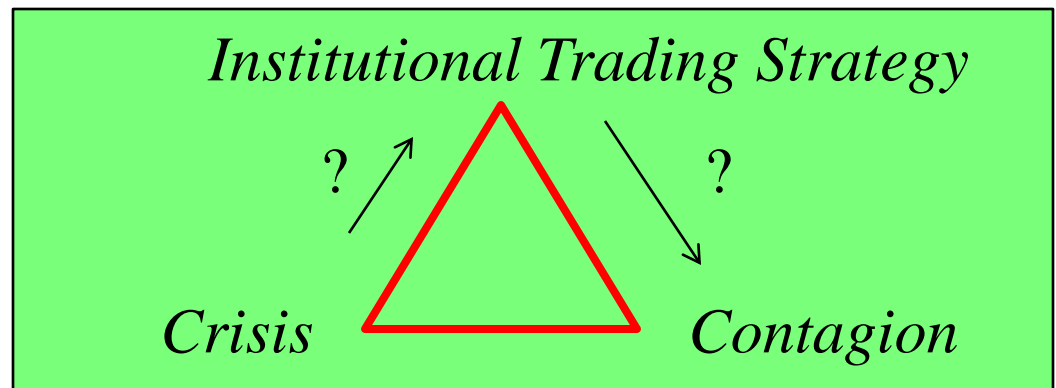


LITERATURE

- ☞ Brennan and Cao (1997) argue that FII use lagged domestic returns as an input in forming expectations about future returns → FII flows may be related to lagged domestic returns.
 - ☞ Grinblatt, Titman and Wermers (1995), Nofsinger and Sias (1999); Wermers (1999, 2000), Cai, and Zheng (2004); Richards (2005), Bennett et al (2003); Parrino et al (2003)) provide evidence that FIIs resort to positive feedback trading strategies.
 - ☞ Jotikasthira, Lundblad, Ramadorai (2012) look at “asset fire sales” by international fund managers as a channel of contagion
 - ☞ Grinblatt and Keloharju (2000) conclude that foreign investors mostly tend to be momentum traders and whereas Finnish domestic investors tend to be contrarian investors.
- These findings suggest that the FIIs and DIIs use different trading strategies.

MOTIVATION

- ☞ Do FII and domestic institutions behave the same way in the Indian market?
- ☞ Do institutional trading strategies change during times of crisis?
- ☞ If FIIs are destabilizing, then the crisis period is the best place to examine this hypothesis.
- ☞ Are there any contagion effects? Bringing bad international news to Indian shores?



CRISIS PERIOD

☞ PRE-CRISIS PERIOD

- 6th April, 2007 to December 31st, 2007.
- The value of the NIFTY rose from 3633.6 to 6144.35.

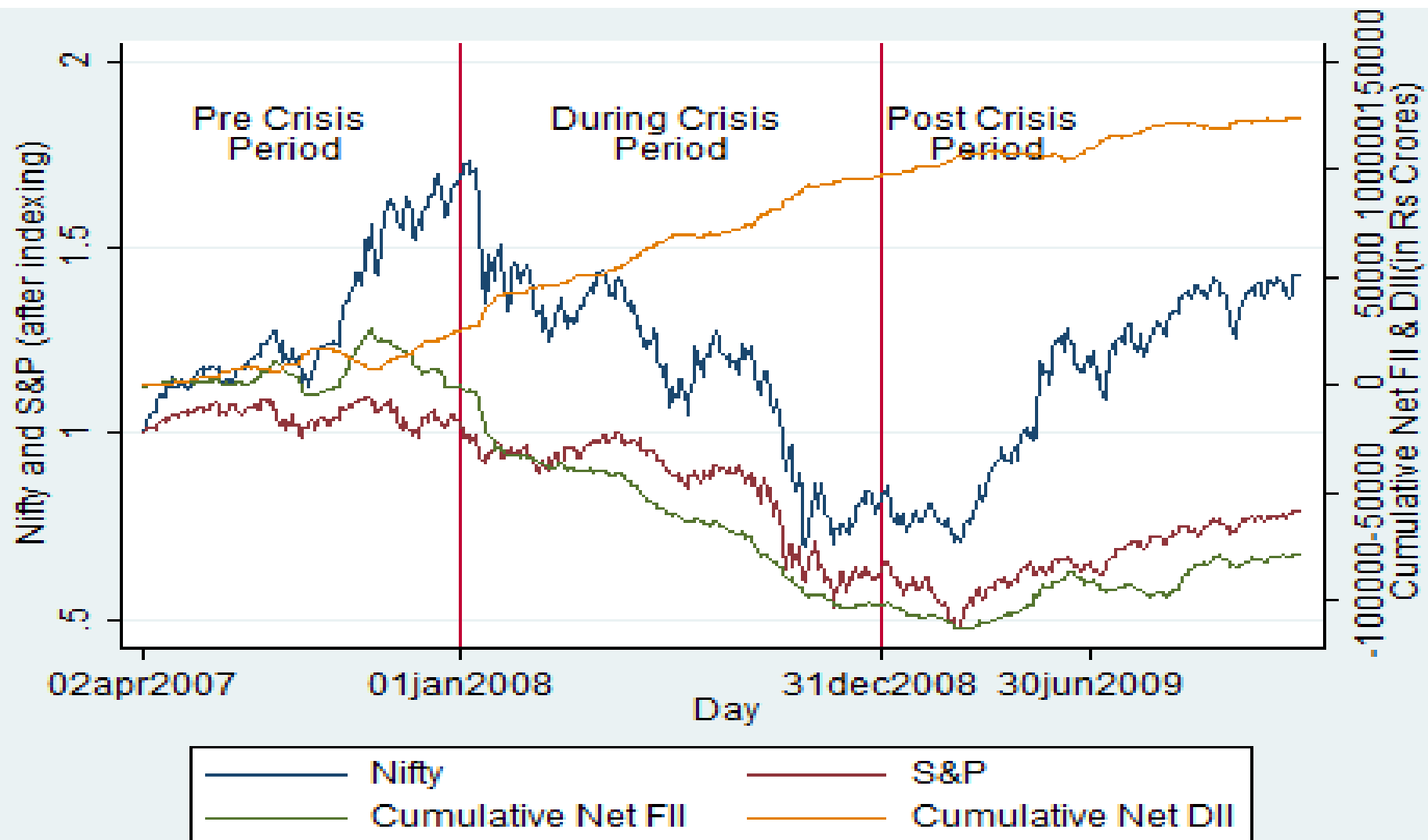
☞ CRISIS PERIOD

- 1st January, 2008 to 31st December, 2008.
- The value of the NIFTY fell from 6144.35 to 3033.45.

☞ POST-CRISIS PERIOD

- 1st Jan 2009 to 31st December, 2009.
- The value of the NIFTY rose from 3033.45 to 5201.05

Market and Investor Category Trends across the time periods



DATA

- ☞ FIIs and DIIs own a significant proportion of the equity market in India.
- ☞ In the year 2008-09, an average of 3883 foreign investors were registered with SEBI.
- ☞ Collectively 80% of the assets are under the custodianship of FIIs (25%) and DIIs (55%) .
- ☞ In terms of turnover, for the sample period, the FIIs turnover is 28.53% and DII turnover is 11.50%.

NET FII (DII) ORDER FLOW

$$FII_Net = \frac{FII\ Buy\ value_t - FII\ Sell\ value_t}{FII\ Buy\ value_t + FII\ Sell\ value_t}$$

$$DII_Net = \frac{DII\ Buy\ value_t - DII\ Sell\ value_t}{DII\ Buy\ value_t + DII\ Sell\ value_t}$$

Descriptive Stats

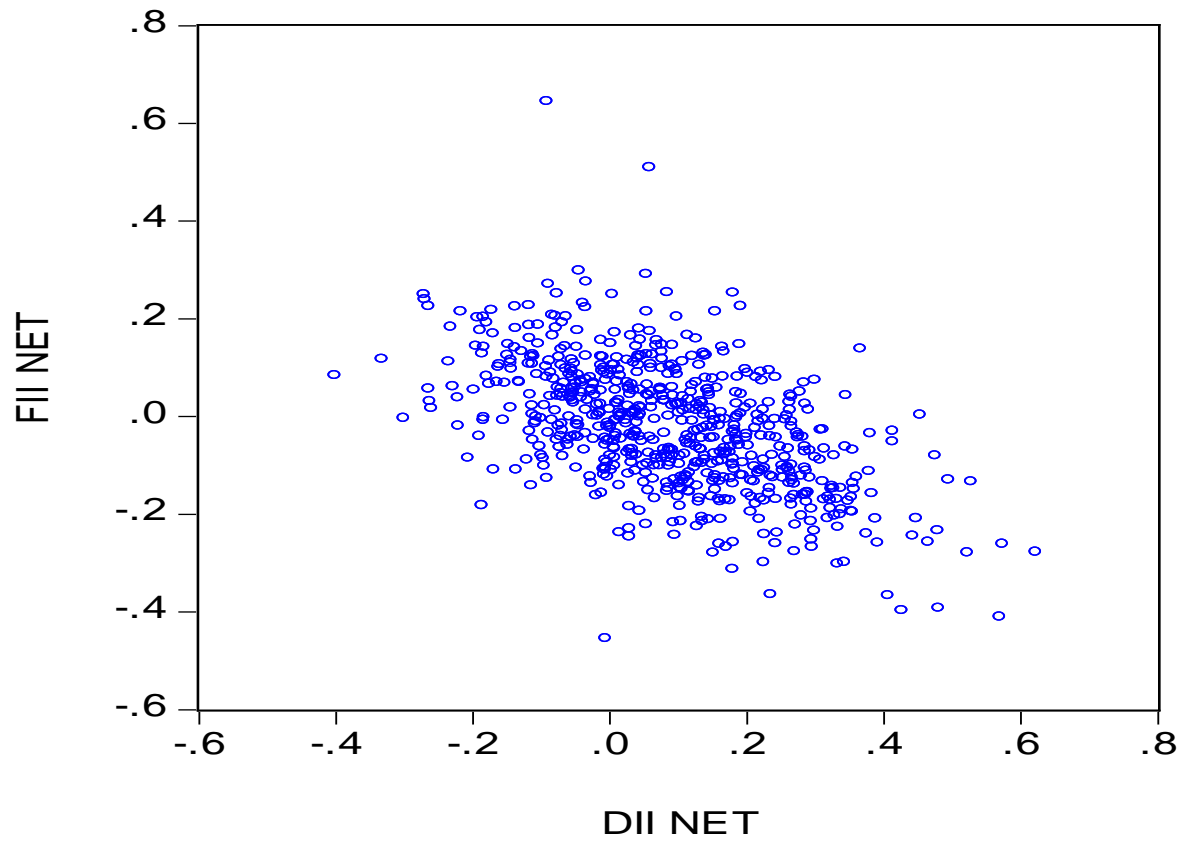
	Mean	Median	Max	Min	StdDev	Skew	Kurt	Obs
Panel A : Pre-Crisis Period - 16th April 2007 to 31st Dec 2007								
FII Net	0	0.01	0.28	-0.41	0.12	-0.49	3.84	180
DII Net	0.06	0.06	0.57	-0.27	0.16	0.27	3.06	180
NIFTY Returns	0.25	0.17	5.44	-4.58	1.56	-0.1	4.82	180
S&P500 Returns	0.01	0.03	2.88	-3.01	1.11	-0.26	3.63	180
Panel B: Crisis Period - 01st Jan 2008 to 31st Dec 2008								
FII Net	-0.07	-0.07	0.25	-0.45	0.11	0.02	3.31	246
DII Net	0.14	0.14	0.62	-0.33	0.16	0.01	2.94	246
NIFTY Returns	-0.29	-0.23	6.76	-13.01	2.81	-0.28	4.63	246
S&P500 Returns	-0.2	0	10.96	-9.47	2.61	-0.14	6.72	246
Panel C : Post-crisis Period - 01st Jan 2009 to 31st Dec 2009								
FII Net	0.01	0.01	0.65	-0.37	0.14	0.34	4.8	243
DII Net	0.06	0.05	0.45	-0.4	0.14	0.06	3.14	243
NIFTY Returns	0.23	0.18	16.34	-6.38	2.14	1.5	15.34	243
S&P500 Returns	0.09	0.14	10.41	-5.43	1.77	0.56	8.48	243
Panel D: Mean differences between Pre-crisis, Crisis and Post-crisis								
	Mean(pre) = Mean(Cri)		Mean (Cri)=Mean(Recov)		Mean(Pre)= Mean (Recov)			
	t-stat	p-value	t-stat	p-value	t-stat	p-value		
FII Net	6.2266	0.0000	-6.8400	0.0000	-0.4170	0.6768		
DII Net	-4.6644	0.0000	5.8868	0.0000	0.5512	0.5818		
Nifty Returns	2.3583	0.0188	-2.2967	0.0221	0.1438	0.8857		
SP500 Returns	0.9846	0.3254	-1.4411	0.1502	-0.5851	0.5588		

CORRELATIONS

Table 2 : Pair-wise Correlation coefficients between the variables This table reports pair wise correlations between NIFTY daily continuous compounding returns (prior, same and future) and investor category-wise daily net purchases. The correlations are reported separately for full period, Pre-Crisis, crisis and post-crisis period. ***, **, * indicate statistical significance at 1%, 5% and 10% level.

PairWise Correlations	(1)	(2)	(3)	(4)	(5)
Panel A : Full Period : 16th April 2007 to 31st Dec 2009					
FII Net	(1) 1				
DII Net	(2) -0.54***	1			
NIFTY Returns (t-1)	(3) 0.38***	-0.26***	1		
NIFTY Returns (t+1)	(4) 0.07*	-0.05	-0.02	1	
NIFTY Returns (t)	(5) 0.49***	-0.16***	0.06	0.06	1
Panel B: PreCrisis period : 16th April 2007 to 31st Dec 2007					
FII Net	1				
DII Net	-0.68	1			
NIFTY Returns (t-1)	0.41***	-0.22***	1		
NIFTY Returns (t+1)	0.05	-0.01	-0.22	1	
NIFTY Returns (t)	0.47***	-0.22***	0.07	0.08	1
Panel C: Crisis Period : 01st Jan 2008 to 31st Dec 2008					
FII Net	1				
DII Net	-0.47***	1			
NIFTY Returns (t-1)	0.36***	-0.25***	1		
NIFTY Returns (t+1)	0.05	-0.04	-0.02	1	
NIFTY Returns (t)	0.47***	-0.22***	0.05	0.05	1
Panel D: Post-crisis Period : 01st Jan 2009 to 31st Dec 2009					
FII Net	1				
DII Net	-0.43***	1			
NIFTY Returns (t-1)	0.39***	-0.25***	1		
NIFTY Returns (t+1)	0.05	-0.01	-0.05	1	
NIFTY Returns (t)	0.55***	0.01	0.03	0.03	1

Scatter plot of net FII and net DII order flows



INTENSE TRADING DAYS

- ☞ To identify days of intense trading, we sort the trading days into deciles based on net FII flows.
- ☞ Decile 1 contains days where FII selling was the most intensive, and Decile 10 contains days where FII buying was most intensive.
- ☞ We define intense buying days in two ways: those trading days that lie in the top decile (Decile 10) or those trading days that lie in the top two deciles (Decile 9 and Decile 10).
- ☞ Similarly, we define intense selling days as trading days that lie in the bottom decile (Decile 1) or those trading days that lie in the bottom two deciles (Decile 1 and Decile 2).

Market returns around Intense FII trading

Panel A : Response of NIFTY to extreme movements of FII_NET

Decile	k = -5	k = -4	k = -3	k = -2	k = -1	k = 0	k = 1	k = 2	k = 3	k = 4	k = 5
Pre-Crisis											
1	0.5374	0.6361	-0.3439	-0.3763	-0.9706 (***)	-1.5144 (***)	-0.1316	-0.0886	-0.0371	1.0046 (***)	0.0613
1 & 2	0.2772	0.2570	-0.3231	-0.4276	-1.0077 (***)	-0.9026 (***)	0.2548	0.4200	-0.0245	0.6650 (***)	0.4080 (*)
9&10	0.4650 (*)	0.4722 (*)	0.6432 (***)	0.5570 (***)	0.8794 (***)	1.0086 (***)	0.4772 (***)	0.6853 (***)	0.6043 (***)	0.3814	0.3183
10	0.5423 (***)	0.8344 (*)	0.4851 (*)	0.3459 (*)	0.7096 (***)	1.3058 (***)	0.7174 (***)	0.6858 (***)	0.3445	0.1873	0.5855
Crisis											
1	-0.9541 (*)	-0.8024 (***)	-1.2307 (***)	-0.9765	-2.5732 (***)	-2.6242 (***)	0.0930	-0.1220	-0.8019	0.7290	-0.4148
1&2	-0.6504	-0.8713	-0.8359	-1.2030 (***)	-1.6533 (***)	-2.0346 (***)	-0.3359	-0.4851	-0.0435	-0.1770	-0.3353
9&10	-0.7346	-0.0290	0.0292	0.4114	1.2652 (***)	1.6381 (***)	-0.0245	-0.4581	-0.0011	-0.3489	-0.5919
10	-1.5857 (***)	-0.6929	-0.1419	0.2286	1.6684 (***)	2.5405 (***)	0.6446	-0.3995	0.5784	-0.5298	-0.3402
Post-crisis											
1	-0.5958	-0.3834	0.2617	-0.6453	-1.1905 (***)	-1.2691 (***)	-0.1354	-0.0435	-0.0131	0.6230	0.5209
1&2	-0.1989	0.3461	-0.2896	-0.4869	-1.2047 (***)	-1.0467 (***)	0.0097	-0.0258	0.4453	0.7930	0.4426
9&10	0.3032	0.2238	0.2056	0.4639 (***)	1.3348 (***)	1.8445 (***)	0.6269 (*)	-0.3394	0.5221	-0.0497	-0.0423
10	0.1253	0.5170	0.2510	0.1133	1.8128 (***)	2.1718 (***)	0.9162	-0.5066	0.9113	-0.1695	-0.2279

Market returns around Intense DII trading

Panel B : Response of NIFTY to extreme movements of DII_NET

Decile		k=-5	k=-4	k=-3	k=-2	k=-1	k=0	k=1	k=2	k=3	k=4	k=5
Pre-Crisis	1	0.7147 (***)	0.7240 (*)	0.8817 (***)	0.5397 (***)	1.2825 (***)	0.5041	0.8555 (***)	0.2553	0.4808	0.4072	0.4573
	1 & 2	0.4530 (***)	0.6109 (***)	0.7714 (***)	0.7360 (***)	0.7397 (***)	0.7005 (***)	0.7308 (***)	0.5978 (***)	0.5235	0.1879	0.2942
	9 & 10	0.0792	-0.1021	-0.5415	-0.2995	-0.0682	-0.3303	0.5773 (*)	0.4421 (*)	0.1799	0.0550	0.2198
	10	-0.2205	-0.4148	-0.9694	-0.3138	-0.4970	-0.8333	0.9839 (***)	0.4614	0.3389	0.4367	0.5038 (***)
Crisis	1	0.1845	1.1829	-0.2523	0.7972	1.1155 (*)	0.6513	-0.1867	-0.5914	-0.9172	-0.0843	-0.2702
	1 & 2	-0.0729	0.4590	0.1871	0.4650	1.1002 (***)	0.5619	-0.0666	-0.0771	-0.3155	-0.6572	-0.3238
	9 & 10	-0.6161	-1.0058 (***)	-1.3314 (***)	-1.5798 (***)	-1.0922 (***)	-1.1820 (***)	-0.2819	0.6062	0.1845	0.0624	-1.2040 (***)
	10	-1.3783 (***)	-0.5379	-2.1308 (***)	-2.4974 (***)	-1.1602	-1.7492 (***)	0.3942	1.4385 (***)	-0.4564	0.1214	-0.7045
Post-crisis	1	0.1055	1.0714 (***)	0.9203 (***)	0.8674 (***)	0.8503	0.1222	0.1476	-0.2768	0.2519	0.1769	0.0024
	1 & 2	0.4040	0.8893 (***)	0.9425 (***)	0.9037 (***)	0.8662 (***)	0.2005	0.4142	0.1829	0.0222	0.1038	0.0232
	9 & 10	-0.8302 (***)	-0.3095	0.0566	-0.2092	-0.4993	0.3574	0.5476	0.3422	0.3400	0.5209 (*)	0.7709 (***)
	10	-1.6517 (***)	-0.6612	-0.1164	-0.2183	-0.7192	0.0046	0.0490	0.3777	0.0290	0.1321	0.8534 (***)

FII trading behavior around good and bad times of Nifty

	FII_Net	DII Net		FII_Net	DII Net	
PreCrisis			<i>+ve feedback</i>	Postcrisis		
ret(t-1)<0	-0.0458	0.0826		ret(t-1)<0	-0.0380	0.0784
ret(t-1)>0	0.0367	0.0508		ret(t-1)>0	0.0485	0.0379
Diff (p-value)	0.0000	0.1708		Diff (p-value)	0.0000	0.0379
ret(t+1)<0	-0.0029	0.0633		ret(t+1)<0	0.0098	0.0573
ret(t+1)>0	0.0067	0.0643		ret(t+1)>0	0.0083	0.0556
Diff (p-value)	0.6049	0.9657		Diff (p-value)	0.9331	0.9240
ret(t)<0	-0.0514	0.0958		ret(t)<0	-0.0432	0.0580
ret(t)>0	0.0406	0.0417		ret(t)>0	0.0522	0.0551
Diff (p-value)	0.0000	0.0273		Diff (p-value)	0.0000	0.8739
			<i>+ve feedback (but reduced)</i>			
Crisis						
ret(t-1)<0	-0.1024	0.1692				
ret(t-1)>0	-0.0315	0.1035				
Diff (p-value)	0.0000	0.0015				
ret(t+1)<0	-0.0723	0.1430				
ret(t+1)>0	-0.0637	0.1315				
Diff (p-value)	0.5335	0.5865				
ret(t)<0	-0.1132	0.1670				
ret(t)>0	-0.0193	0.1053				
Diff (p-value)	0.0000	0.0031				

INSTITUTIONAL TRADING AROUND EXTREME MARKET MOVEMENTS

- ☞ What do we know about institutional trading activity around days of extreme market movements.
- ☞ We identify those trading days with extreme market movements. Decile 1 consists of those trading days with the least returns on the NIFTY index and Decile 10 consists of trading days with the highest returns on the NIFTY index.
- ☞ Then we determine the average net FII (DII) flows in the $(-5, +5)$ window around the days of extreme returns on the NIFTY index.

Trading patterns of FII around extreme movements of NIFTY

Panel A : Trading Behaviour of FII around extreme movements of NIFTY

	Decile	k=-5	k=-4	k=-3	k=-2	k=-1	k=0	k=1	k=2	k=3	k=4	k=5
Pre-Crisis	1	0.0381	0.0188	-0.0123	-0.0299	-0.0540 (*)	-0.1322 (***)	-0.1175 (***)	-0.0848 (***)	-0.0963 (***)	-0.0274	-0.0223
	1&2	-0.0062	-0.0127	-0.0312	-0.0328	-0.0249	-0.1050 (***)	-0.0697 (***)	-0.0444 (***)	-0.0577 (***)	-0.0362 (*)	-0.0464 (***)
	9&10	-0.0015	-0.0297	-0.0078	-0.0148	-0.0348	0.0537 (***)	0.0438 (***)	0.0112	0.0214	-0.0028	-0.0261
	10	0.0060	-0.0244	0.0118	-0.0442	-0.0389	0.0836 (***)	0.0400 (***)	-0.0184	0.0148	0.0180	-0.0752 (*)
Crisis	1	-0.0782 (***)	-0.0828 (***)	-0.0780 (***)	-0.0980 (***)	-0.1044 (***)	-0.1405 (***)	-0.1375 (***)	-0.1071 (***)	-0.1003 (***)	-0.0827 (***)	-0.0485 (*)
	1&2	-0.0751 (***)	-0.0849 (***)	-0.0759 (***)	-0.0913 (***)	-0.0821 (***)	-0.1311 (***)	-0.1163 (***)	-0.0843 (***)	-0.0882 (***)	-0.0842 (***)	-0.0645 (***)
	9&10	-0.0677 (***)	-0.0877 (***)	-0.0575 (***)	-0.0836 (***)	-0.0764 (***)	0.0042	-0.0092	-0.0392 (***)	-0.0573 (***)	-0.0595 (***)	-0.0667 (***)
	10	-0.0988 (***)	-0.1219 (***)	-0.1030 (***)	-0.1181 (***)	-0.0891 (***)	0.0027	-0.0297	-0.0453	-0.0722 (***)	-0.0930 (***)	-0.0755 (***)
Post-crisis	1	0.0240	0.0028	-0.0336	-0.0439	-0.0231	-0.1255 (***)	-0.0852 (***)	-0.0575 (***)	-0.0495 (***)	-0.0529 (*)	-0.0400
	1 & 2	0.0067	-0.0046	-0.0094	-0.0346	-0.0377 (***)	-0.1032 (***)	-0.0847 (***)	-0.0204	-0.0074	-0.0231	-0.0044
	9&10	-0.0352 (***)	-0.0462	-0.0084	-0.0072	-0.0052	0.0951 (***)	0.0857 (***)	0.0278	0.0196	0.0149	0.0114
	10	-0.0384	-0.0404	-0.0151	-0.0463	-0.0278	0.0976 (***)	0.0782 (***)	-0.0044	0.0163	0.0292	0.0128

Trading patterns of DII around extreme movements of NIFTY

Panel B : Trading Behaviour of DII around extreme movements of NIFTY

Decile		k=-5	k=-4	k=-3	k=-2	k=-1	k=0	k=1	k=2	k=3	k=4	k=5
Pre-Crisis	1	0.0076	0.0377	0.0478	0.0766 (*)	0.0645 (*)	0.1580 (***)	0.1524 (***)	0.1445 (***)	0.2138 (***)	0.1337 (***)	0.1359 (***)
	1 & 2	0.0829 (***)	0.0703 (***)	0.0887 (***)	0.0985 (***)	0.0760 (***)	0.1489 (***)	0.1101 (***)	0.1397 (***)	0.1670 (***)	0.1256 (***)	0.1406 (***)
	9 & 10	0.0358	0.0642 (***)	0.0586 (*)	0.1027 (***)	0.1093 (***)	0.0622 (***)	0.0494 (*)	0.0383	0.0291	0.0614 (***)	0.0825 (***)
	10	0.0112	0.0292	0.0402	0.1155 (***)	0.0854	0.0622 (*)	0.0311	0.0465	0.0429	0.0549	0.1092 (***)
Crisis	1	0.1808 (***)	0.1328 (***)	0.1593 (***)	0.1389 (***)	0.1827 (***)	0.2326 (***)	0.2146 (***)	0.1991 (***)	0.1992 (***)	0.2025 (***)	0.0897 (***)
	1 & 2	0.1615 (***)	0.1272 (***)	0.1288 (***)	0.1370 (***)	0.1510 (***)	0.1971 (***)	0.1672 (***)	0.1888 (***)	0.1687 (***)	0.1871 (***)	0.1398 (***)
	9 & 10	0.1018 (***)	0.1531 (***)	0.1319 (***)	0.1569 (***)	0.1285 (***)	0.0987 (***)	0.0689 (***)	0.0722 (***)	0.0905 (***)	0.1208 (***)	0.0878 (***)
	10	0.1377 (***)	0.2197 (***)	0.1665 (***)	0.2104 (***)	0.1733 (***)	0.1125 (***)	0.0879 (***)	0.0488	0.1096 (***)	0.1340 (***)	0.0813 (***)
Post-crisis	1	0.0262	0.0626 (***)	0.0955 (***)	0.0803 (***)	0.0968 (***)	0.0610 (***)	0.1415 (***)	0.1302 (***)	0.1316 (***)	0.1303 (***)	0.1424 (***)
	1 & 2	0.0299	0.0795 (***)	0.0924 (***)	0.0754 (***)	0.0859 (***)	0.0712 (***)	0.1278 (***)	0.1238 (***)	0.1084 (***)	0.1115 (***)	0.1175 (***)
	9 & 10	0.0859 (***)	0.0778 (***)	0.0955 (***)	0.0873 (***)	0.0766 (***)	0.0819 (***)	0.0290	0.0312 (*)	0.0263	-0.0157	0.0278
	10	0.0855 (***)	0.0963 (***)	0.1131 (***)	0.1096 (***)	0.0700 (*)	0.0931 (***)	0.0289	0.0530 (***)	0.0682 (***)	-0.0120	0.0193

Daily VAR estimates

$$R_t = \alpha_1 + \sum_{i=1}^k \beta_{1i} R_{t-i} + \sum_{i=1}^k \gamma_{1i} FII_{Net,t-i} + \sum_{i=1}^k \delta_{1i} DII_{Net,t-i} + \epsilon_{1t,R}$$

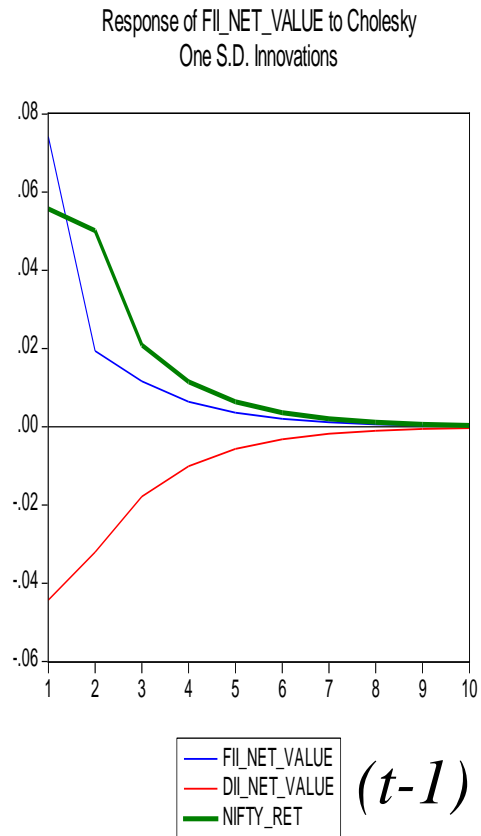
$$FII_{Net,t} = \alpha_2 + \sum_{i=1}^k \beta_{2i} R_{t-i} + \sum_{i=1}^k \gamma_{2i} FII_{Net,t-i} + \sum_{i=1}^k \delta_{2i} DII_{Net,t-i} + \epsilon_{2t,FII_{Net}}$$

$$DII_{Net,t} = \alpha_3 + \sum_{i=1}^k \beta_{3i} R_{t-i} + \sum_{i=1}^k \gamma_{3i} FII_{Net,t-i} + \sum_{i=1}^k \delta_{3i} DII_{Net,t-i} + \epsilon_{3t,DII_{Net}}$$

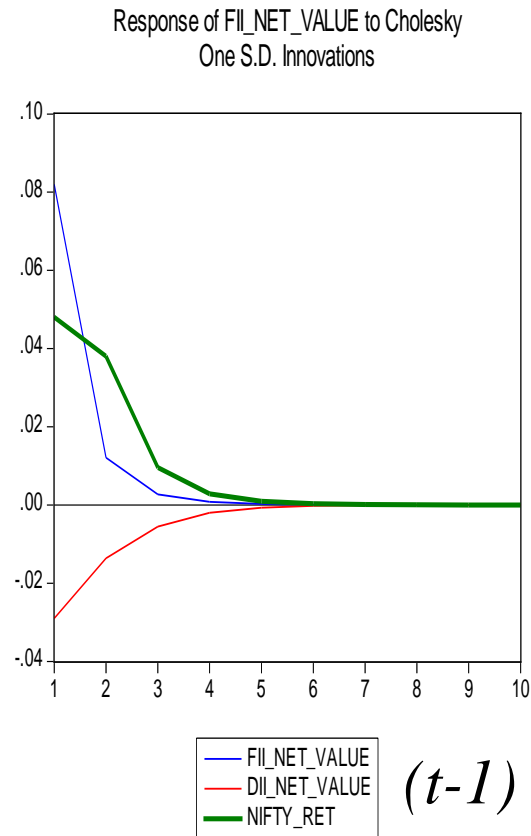
	PRE-CRISIS period			CRISIS period			POST-CRISIS period		
	NIFTY_RET	FII_NET	DII_NET	NIFTY_RET	FII_NET	DII_NET	NIFTY_RET	FII_NET	DII_NET
NIFTY_RET(-1)	0.0615 [0.7120]	0.0193*** [3.4070]	0.0017 [0.2485]	0.0352 [0.4854]	0.0099*** [3.8082]	-0.0090** [-2.3130]	-0.0048 [-0.0591]	0.0121*** [2.7591]	-0.0040 [-0.8775]
FII_NET(-1)	0.4150 [0.2874]	0.2615*** [2.7615]	-0.469*** [-4.1089]	0.5633 [0.2710]	0.1764** [2.3766]	-0.1358 [-1.2118]	0.9800 [0.6890]	0.3613*** [4.6988]	-0.345*** [-4.2913]
DII_NET(-1)	0.2779 [0.2653]	-0.1707** [-2.4856]	0.3009*** [3.6365]	-0.4015 [-0.3239]	-0.0483 [-1.0921]	0.2545*** [3.8085]	0.4020 [0.3486]	-0.0719 [-1.1542]	0.2172*** [3.3281]
Intercept	0.2077 [1.5220]	0.0081 [0.9046]	0.0453*** [4.1982]	-0.1782 [-0.7399]	-0.046*** [-5.3116]	0.0911*** [7.0142]	0.2054 [1.3299]	0.0072 [0.8601]	0.0477*** [5.4584]
R-squared	0.0056	0.3294	0.3749	0.0038	0.1614	0.1500	0.0028	0.2709	0.2478

Impulse Response Graphs from VAR analysis - FII

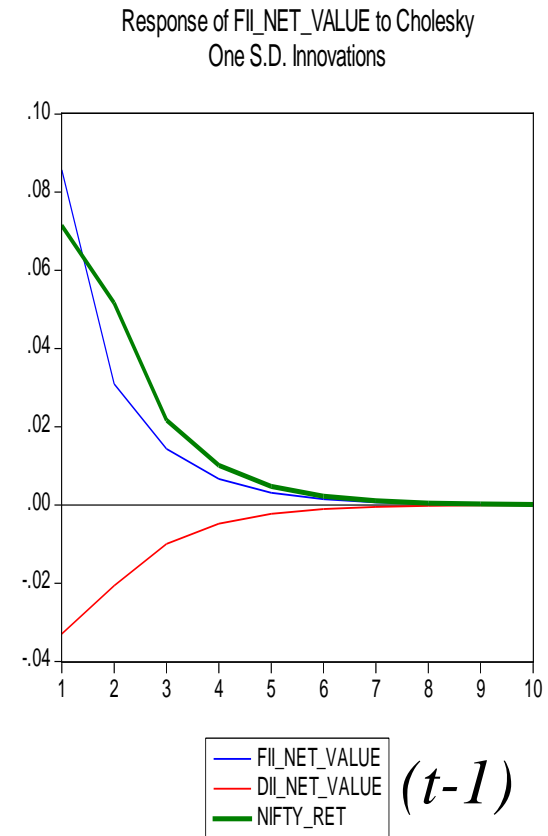
Pre Crisis



Crisis



Post Crisis

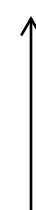
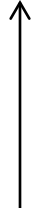


CONTAGION

-10

0

+10



*EXTREME
MOVEMENT IN
S&P 500*

*FII (DII)
TRADING*

*NIFTY
RETURNS*

Effect of past S&P returns on future Nifty returns

$$Nifty_{Fut_t} = \alpha_0 + \beta_1 DII_Net + \beta_2 \text{DUP} * DII_Net + \beta_3 \text{DD} * DII_Net + \alpha_1 FII_Net + \alpha_2 \text{DUP} * FII_Net + \alpha_3 \text{DD} * FII_Net + \alpha_4 SPRT_{Past} + \gamma_1 AR(1) + \gamma_2 MA(1) + \epsilon_t$$

*“Surprise”
matters more*

DepVar: Nifty_Fut	PreCrisis			Crisis			Post-crisis		
	Coeff	t-stat	p-value	Coeff	t-stat	p-value	Coeff	t-stat	p-value
Intercept	2.2842	1.9338	0.0548	-3.3170	-1.7540	0.0807	2.3971	1.3748	0.1705
dii_net	1.0326	1.0782	0.2825	0.7219	0.3887	0.6979	4.0447	2.4377	0.0155
DUP_DII	2.3571	1.2953	0.1970	-1.9186	-0.9018	0.3681	2.3141	1.0289	0.3046
DD_DII	-2.4321	-1.2731	0.2047	1.3869	0.3947	0.6934	-1.7948	-0.6613	0.5091
DUP_FII	4.0563	1.5606	0.1205	5.9310	2.1247	0.0347	2.7666	0.6366	0.5250
DD_FII	-0.4913	-0.1813	0.8563	-10.7226	-1.6197	0.1066	-0.7495	-0.1952	0.8454
fii_net	-0.1301	-0.0870	0.9307	3.8648	1.6710	0.0960	1.5863	0.6077	0.5440
SPRT_PAST	0.2221	2.5103	0.0130	-0.0120	-0.1143	0.9091	-0.0212	-0.2817	0.7784
AR(1)	0.8231	16.7064	0.0000	0.8350	18.6307	0.0000	0.8931	26.2758	0.0000
MA(1)	0.2892	3.5167	0.0006	0.2601	3.1712	0.0017	0.0112	0.1808	0.8567
AdjR-sq	0.7923			0.7854			0.8048		
DW test	1.9700			2.0020			1.9900		

CONCLUSIONS

- FII seem to be acting as short-term momentum traders who trade in the direction of the market.
- DII act as short-term contrarian traders whose trades dampen the impact of fluctuations in FII trading.
- DII seem to provide a stabilizing influence on the market.
- At the same time, it is not possible to infer that FIIs are destabilizing the Indian equity markets.
- No significant evidence to show that FII trades transmit bad news from their home country to the Indian markets.
- Rather, it is only contrarian (good) news in the home country that finds its way into Indian markets via FII trades.
- FII trading is associated with contagion only during the crisis period, but in the opposite direction (spreading the antidote rather than the germ).

Thank You